

MA8170

USB 2.0 Handheld Device Reader Controller

Description

The MA8170 is a new generation high performance USB 2.0 reader for Handheld devices which supports multiple cards including most updated Secure Digital Card (SD3.0), MultiMedia Card, Memory Stick, and Compact Flash. The MA8170 integrates USB 2.0 transceiver, MCU, DC-DC regulators and memory card access unit into a single chip. In order to provide best performance, MA8170 integrates a high speed 8051 microprocessor and a high efficiency hardware engine for best data transfer performance.

In order to meet market standard, MA8170 integrates power MOSFET to improve ESD performance, over current protection design to prevent from short current. For reducing BOM cost, MA8170 reserve flexibility to remove external 12MHz Crystal on PCB, which means the clock source is generated from MOAI's proprietary on chip clock design

The MA8170 ships with two types of package:

LQFP48 for SD, MMC, MS , XD and CF

SSOP28 & QFN32 for SD, MMC and MS.

Features

- USB
 - ✓ USB Specification Rev. 2.0
 - ✓ USB Device Class for Mass Storage Bulk Only Transport Specification Rev. 1.0.
 - ✓ USB Bus-powered
 - ✓ Support Suspend, Remote Wake-up and Wake-up Resume
 - ✓ Integrated USB 2.0 UTMI transceiver and Serial Interface Engine (SIE)
 - ✓ Endpoint:
 - Endpoint 0: 64 bytes control transfer.
 - Endpoint 1: 512 bytes bulk transfer for IN transaction.

Prolific Technology Inc.

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- Endpoint 2: 512 bytes bulk transfer for OUT transaction.

■ SD/MMC

- ✓ Support Secure Digital Card (SD) specification v1.0/v1.1/v2.0/v3.0 UHS-1 for SDR50 & DDR50.
- ✓ Support up to 2 TB SDXC/MSXC card capacity
- ✓ Support MMC 4.0/4.1/4.2/4.4 (4 bit & 8bit), RS-MMC, and MMC-Mobile.
- ✓ Complies with Multi-Media Card specification 3.1/4.4
- ✓ Automatic CRC7 generation for command and CRC7 verification for response on CMD
- ✓ Support automatic CRC16 generation and verification on DAT7-0

■ MS

- ✓ Memory Stick, Memory Stick PRO, Memory Stick Micro (M2), and Memory Stick PRO-HG(8bit), MS XC-HG (60MHz)
- ✓ Support automatic CRC16 generation and verification on DAT7-0
- ✓ Support different clock rate from 12MHz to 60MHz.

■ CF

- ✓ Complies with T13' s ATA/ATAPI-6 Draft Specification.
- ✓ Complies with CompactFlash (CF) specification up to ver. 4.1 with True IDE PIO mode
- ✓ Support 28-bit/48-bit addressing
- ✓ Support PIO modes 6 and UDMA modes 6
- ✓ ATA interface IRQ signal support

- ✓ Support EEPROM I²C interface for external vendor information customization.
- ✓ On-chip MOS switch with 500mA capability to support all flash cards.
- ✓ Integrate 5V to 3.3V/1.8V regulator.
- ✓ Over Current Protection for short current prevention
- ✓ Optional for Embedded 12MHz crystal to save BOM

Package

Available in LQFP48 , QFN32 and SSOP28

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